ASAI

Monday, 17/11/2008 11:52:41 AM

Julie Dawson User:

Process Sheet

Customer

: CU-DAR001 Dart Helicopters Services

Job Number

: 43486

Estimate Number

: 10279

P.O. Number

This Issue

: 17/11/2008

: NC

: // : 42190

S.O. No. :

Type

: MACHINED PARTS

Part Number

Drawing Name

: D3121143

: E

Drawing Number Project Number - D3121 REV E : N/A

: BRACKET ASSEMBLY

Drawing Revision

Material

: 24/11/2008 **Due Date**

Qty:

Um:

Each

Previous Run Written By &

Prsht Rev.

First Issue

Checked & Approved By

Comment

New issue KJ/DS

Est Rev:B ECN 1060 07-11-12 DD verified by:EC

Est Rev:C New Dimensions for Blank Size 08-07-23 JLM Verified

Bv:EC

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

M174B1250X02000 1.0

17-4 SS Bar 1.250 x 2.00

Comment: Qty.:

Total: 0.3864 f(s)/Unit

7.7280 f(s)

Material: 17-4 SS Bar per AMS 5604/5643 (M17-4-B1.250x02.000)

Identify for D3121-113

Batch: M109457

2.0

BAND SAW

BAND SAW



Comment: BAND SAW

Cut blanks: (1.250" x 2.000") 4.425" long

HAAS CNC VERTICAL MACHINING #

3.0

Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine D3121-113 as per Folio FA330 and Dwg D3121 Identify as D3121-113

2-Deburr

3-Scribe batch number

Inf / J.F. 08/11/2

Dart Aerospace Ltd

Duit Ac	COPACC									
W/O:			W	ORK ORDER CHANG	ES					
DATE	STEP	PROC	EDURE CH	ANGE		Зу	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
;										
Part No	:	PAR #:	_ Fault Cat	egory:	_ NCR:	Yes N	lo DQ	A :	Date: _	
	R	esolution:	_ Dispositi	on:	_ QA: N	I/C Clo	sed:		Date: _	
NCR:		Wo	ORK ORI	DER NON-CONFORMA	NCE (NCR)				
		Description of NC		Corrective Action Section		*	Verific	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Date		on C	Chief Eng	QC Inspector
		<i>:</i>		•						
	!					,			,	

NOTE: Date & initial all entries

Date: Monday, 17/11/2008 11:52:41 AM Julie Dawson User: **Process Sheet Drawing Name: BRACKET ASSEMBLY** Customer: CU-DAR001 Dart Helicopters Services Part Number: D3121143 Job Number: 43486 Job Number: Description: Seq. #: **Machine Or Operation:** INSPECT PARTS AS THEY COME OFF MACHINE 4.0 QC2 Comment: INSPECT PARTS AS THEY COME OFF MACHINE SECOND CHECK QC8 5.0 Comment: SECOND CHECK 6.0 D312121 2.0000 Each(s)/Unit Total: 40.0000 Each(s) Comment: Qty.: Pick: **Qty Part Number** Description Batch 2 D3121-21 Bearing Assembly 7.0 D3121241 Comment: Qty.: 2.0000 Each(s)/Unit Total: 40.0000 Each(s) Pick: **Qty Part Number** Description Batch 2 D3121-241 Bearing Ass 8.0 SMALL FAB SMALL & MEDIUM FAB RESOURCE 1 Comment: SMALL & MEDIUM FAB RESOURCE 1 Assemble D3121-143 as per Dwg D3121. INSPECT WORK TO CURRENT QC5 9.0 Comment: INSPECT WORK TO CURRENT STEP PACKAGING 1 PACKAGING RESOURCE #1 10.0 Comment: PACKAGING RESOURCE #1 Identify and Stock Location:

Dart Aerospace Ltd

W/O:			WO	RK ORDER CHANGI	ES				
DATE	STEP	PRO	OCEDURE CHAN	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
			-						
Part No	:	PAR #:	Fault Categ	ory:	NCR: Yes	No DQ	A:	Date: _	·
	R	esolution:	Disposition	:	_ QA: N/C (losed:		Date: _	
NCR:			WORK ORDE	R NON-CONFORMA	NCE (NC	R)			
DATE	STEP	Description of NC	Initial	Corrective Action Section Action Description	on B Sign		cation	Approval	Approval
<u></u>		Section A	Chief Eng	Chief Eng	Date	e Sect	ion C	Chief Eng	QC Inspector
ii.									
,									
						ŀ			

NOTE: Date & initial all entries

Date: "User: Monday, 17/11/2008 11:52:41 AM

Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BRACKET ASSEMBLY

Job Number: 43486

Part Number: D3121143

Job Number:



Seq. #:

Machine Or Operation:

Description:

11.0

QC21

FINAL INSPECTION/W/O RELEASE



08/11/27

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



WO 6. U. 22

Dart Aerospace Ltd

	•									
W/O:			V	ORK ORDER CHAN	GES		, •			
DATE	STEP	PROCEDURE CHANGE			Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
				•					12	
		:								
								rate i		
Part No	:	PAR #:	Fault Ca	tegory:	NCR	l: Yes I	No DQ	A:	_ Date: _	
	R	esolution:	Disposit	QA:	QA: N/C Closed: Date: _					
NCR:		1	WORK OR	DER NON-CONFORM	JANCE	(NCR)	-		·····
		Description of NC Corrective Action Section			ection B		Verific	cation	Approval	Approval
DATE	STEP	Section A	Initial Action Description Chief Eng Chief Eng		Sign & Date		Section C		Chief Eng	QC Inspector
į										
		!			*	·				}

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order: 43486
Description: Bracket	Part Number: D3121-113
Inspection Dwg: D3121 Rev: E	Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing	Toloronoo	Actual	Accept	Reject	Method of	Comments
Dimension	Tolerance	Dimension	Accept	Reject	Inspection	Comments
0.080	+/-0.010	.079				
0.300	+/-0.010	.298				
R0.375	+/-0.010	R.375				
1.54	+/-0.030	1.539				
0.350	+/-0.010	353				
R0.25	+/-0.030	2.250				
Ø0.392	+0.002/-0.000	8.3933				
Ø0.201	+0.005/-0.000	8.201				
2.540	+/-0.010	2.541				
1.590	+/-0.010	1.590				
0.160	+/-0.010	.160				
0.400	+/-0.010	.396				
1.220	+/-0.010	1.216				
1.600	+/-0.010	1.603			.,,,,	
3.80	+/-0.030	3.800			·	
1.800	+/-0.010	1.801				
R0.50	+/-0.030	R.500				
0.130	+/-0.010	-130				
3.41	+/-0.030	3.385				
3.65	+/-0.030	3.625				
2.24	+/-0.030	2.210				
45°	+/-0.1°	450		. <u></u>		
R0.25	+/-0.030	R.250				
3.97	+/-0.030	3.972				
<u> </u>						
R0.38	+/-0.030	R.380				
Ø0.392	+0.002/-0.000	B.3933			<u> </u>	
Ø0.201	+0.005/-0.000	8.201				
0.268	+/-0.010	.268		<u> </u>		
R0.260	+/-0.010	R.260			<u> </u>	m2 A
0.080	+/-0.010	077				
0.300	+/-0.010	-302				
0.381	+/-0.010	. 380				
0.201	+/-0.010	.201				
0.580	+/-0.010	.580				

DART AEROSPACE LTD	Work Order:	H3486
Description: Bracket	Part Number:	D3121-113
Inspection Dwg: D3121 Rev: E		Page 2 of 2

FIRST ARTICLE INSPECTION CHECKLIST

X First Article	Prototype
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Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.400	+/-0.010	.396				
100°	+/-0.1°	100°				
0.032	+0.000/-0.010	_e 030				
			` .			
			,			

Measured by:	and	Audited by:	JI	Prototype Approval:	N/A
Date:	oxlulia	Date:	26/11/80	Date:	N/A

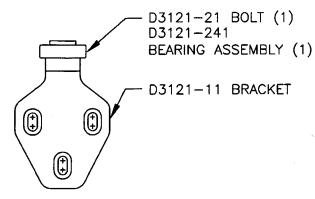
Rev	Date	Change	Revised by	Approved
A	03.12.08	New Issue P/O D3121-143	KJ/RF	
В	04.05.05	Dimensions changed/re-arranged per Dwg revision	KJ/JLM	
С	06.06.14	Dwg Rev. updated	KJ/JLM	
D	08.01.16	Dimensions updated per Dwg Rev. E	KJ/EC/DD	- 22



DESIGN DRAWN BY		DRAWN BY		SPACE LTD ONTARIO, CANADA
CHECK	KED	APPROVED	DRAWING NO.	REV. E
	4		D3121	SHEET 1 OF 10
DATE			TITLE	SCALE
07.1	1.07		BRACKET ASSEMBLY	1:2
Α		02.04.15	NEW ISSUE	
B		03.01.16	ADD RIDGES; ADD M ADD -141/-143/-	MAT'L PROP; FIX P/N 144/-145/-146

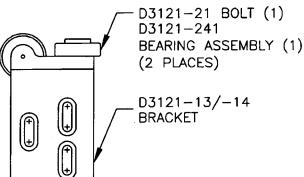


0	7.11	.07	BRACKET ASSEMBLY 1:2
	A	02.04.15	NEW ISSUE
	В	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146
	С	04.02.17	ADD CLEARANCE; USE -241 BEARING
	D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000
	E	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)



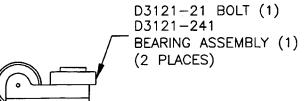
D3121-041 BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-33)



D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-15/-16 BRACKET

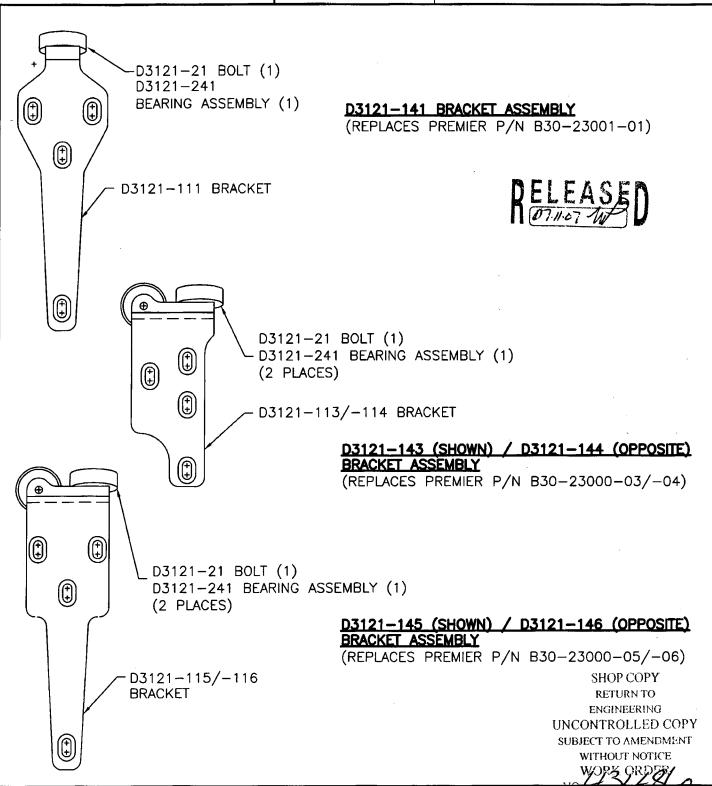
D3121-045 (SHOWN) / D3121-046 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-35/-36)

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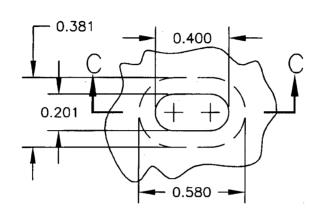
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4		D3121	SHEET 2 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

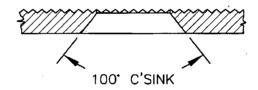




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4	-#	D3121	SHEET 3 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1

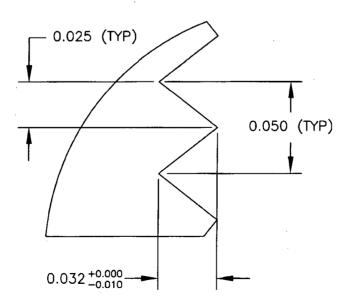
DETAIL A: SLOT DETAIL SCALE 2:1 VIEW ROTATED





SECTION C-C

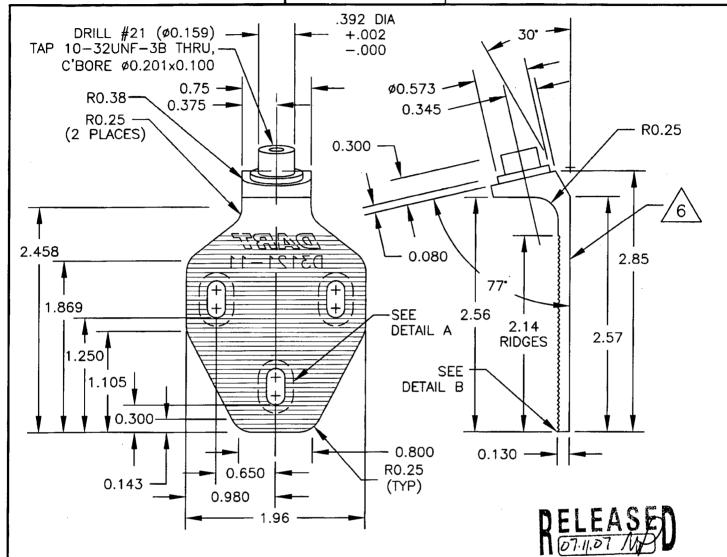
<u>DETAIL B:</u> RIDGE DETAIL PARTIAL SECTION SCALE 1:20



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#	-#	D3121	SHEET 4 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1



D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY RETURN TO

ENGINEERING

UNCONTROLLED COPY SUBJECT TO AMENDMENT

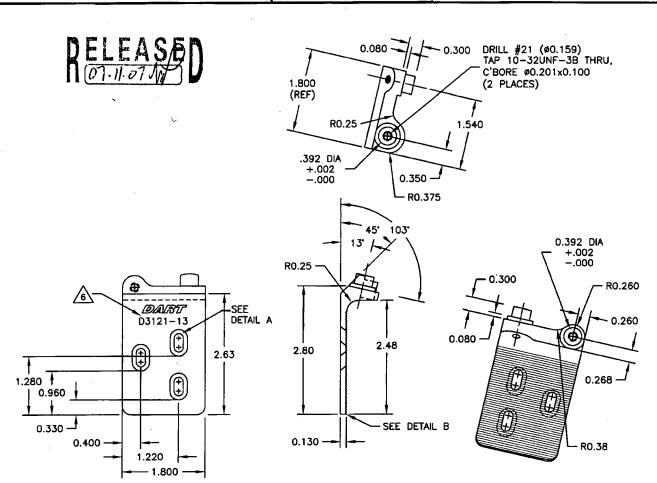
WITHOUT NOTICE

WORK ORDER NO. 13/20

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4	 #	D3121	SHEET 5 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



D3121-13 BRACKET (SHOWN) D3121-14 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE STRENGTH = 150 ksi MIN YIELD TENSILE STRENGTH = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

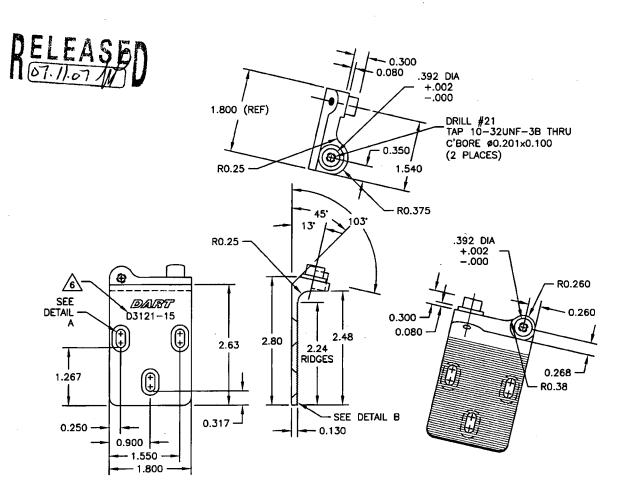
5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY **RETURN TO** ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE



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DATE		TITLE	SICCI		ALE
07.11.07		BRACKET	ASSEMBLY		1:2



D3121-15 BRACKET (SHOWN) D3121-16 BRACKET (OPPOSITE)

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP CCPY RETURN TO

ENGINEERING

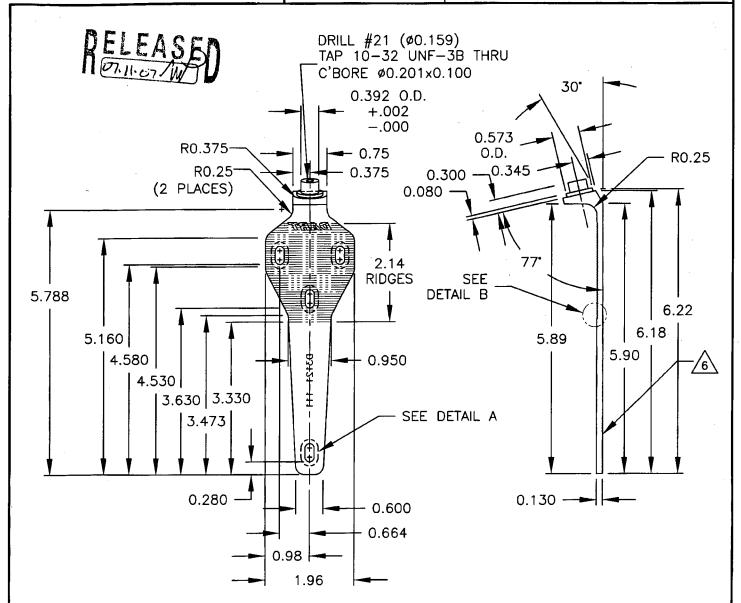
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4		D3121	SHEET 7 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2



D3121-111 BRACKET

1) REPLACES PREMIER P/N B32-23001-11

2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

MIN ULTIMATE TENSILE = 150 ksi

MIN YIELD TENSILE = 100 ksi

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED

4) ALL DIMENSIONS ARE IN INCHES

5) BREAK ALL SHARP EDGES 0.005 TO 0.015

6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN

7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COTY

RETURN TO

ENGINEERING

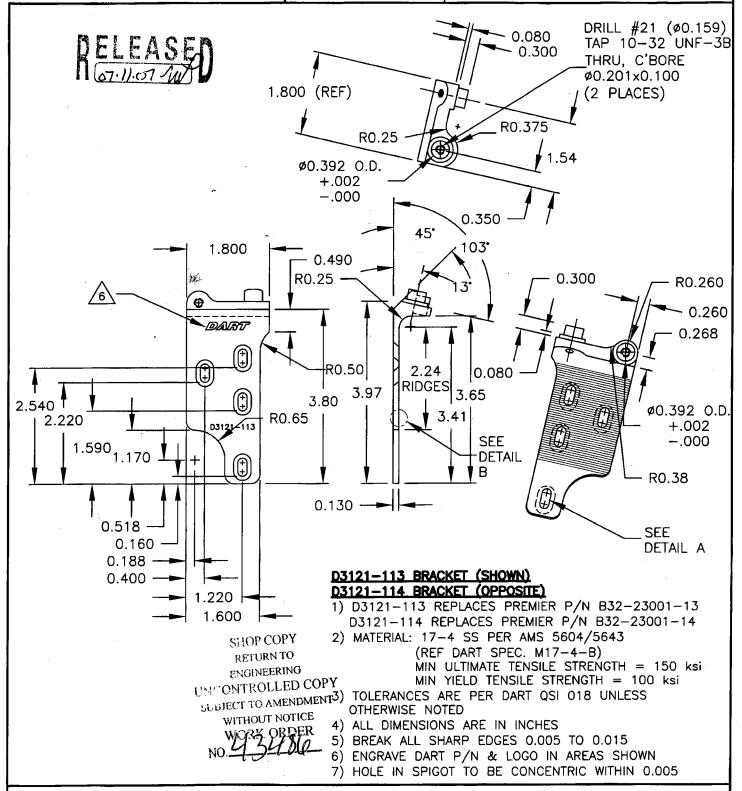
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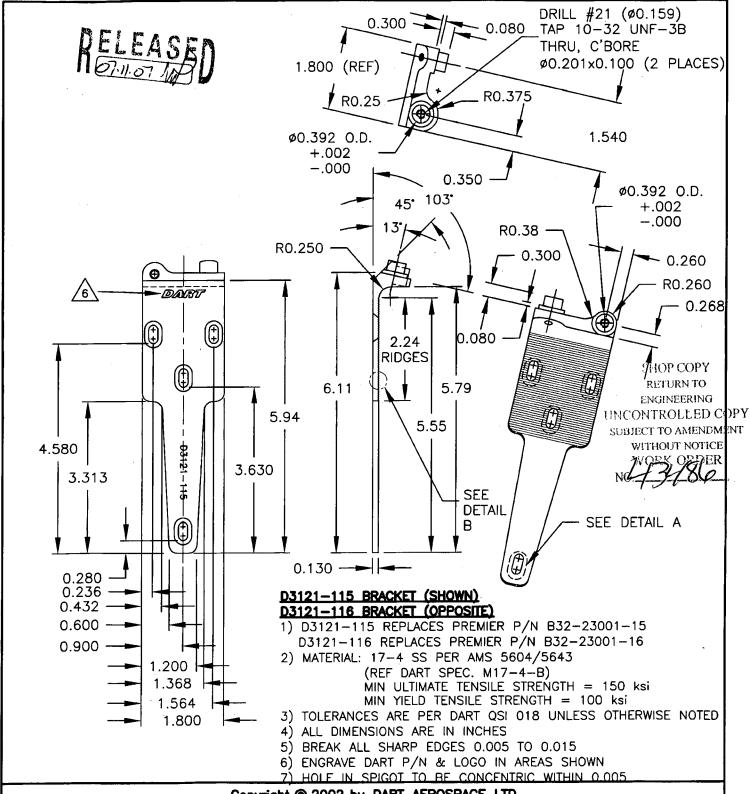
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CHECKED _	APPROVED	DRAWING NO.	REV.
4	-#	D3121	SHEET 8 OF 1
DATE	. • • • • • • • • • • • • • • • • • • •	TITLE	SCAL
07.11.07		BRACKET ASSE	MBLY 1:



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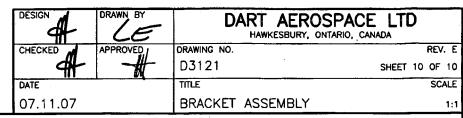


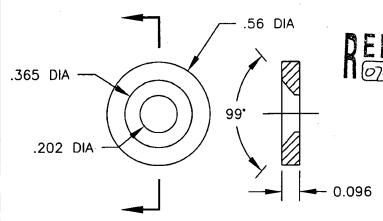
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CHECKED	APPROVED,	DRAWING NO.	REV. E	
4		D3121	SHEET 9 OF 10	
DATE		TITLE	SCALE	
07.11.0	7	BRACKET ASSEMBLY	1:2	



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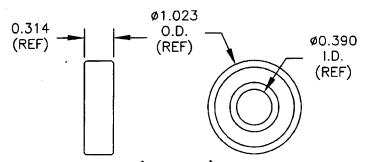






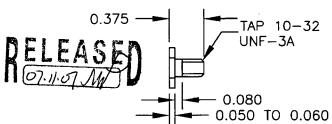
D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



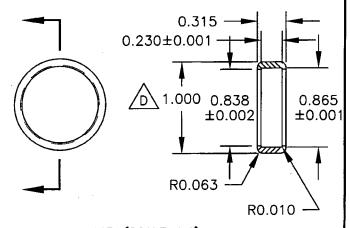
D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



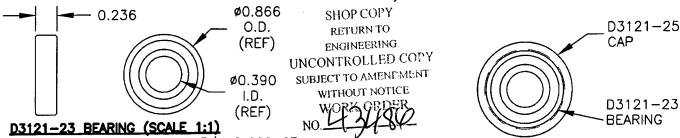
D3121-21 BOLT (SCALE 1:1)

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-25 CAP (SCALE 1:1)

- 1) MATERIAL: DELRIN ROD, Ø1.25
 - (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES



1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z

OR KML P/N 6900-ZZ

D3121-241 BEARING ASSEBLY (SCALE 1:1)

2) ALL DIMENSIONS ARE IN INCHES

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